

REMARKS

The issues outstanding in this application are as follows:

In the Claims

Claims 1-33 are pending in this application. Claims 1-33 have been rejected. Claims 1-4 have been deleted. Claims 5, 9-15, 21-24, 27, 30, and 31 have been amended.

Claims 34-52 have been added. Claims 34-52 do not introduce new matter.

Claim Rejections Under 35 U.S.C. § 102

Claims 1-4 are rejected under 35 U.S.C. § 102(b) based upon a public sale of nucleic acids (Sigma Catalog, Catalog # D7290) and a public use of nucleic acids (Southern blot protocol in 1998 Peter Mac Laboratory Manual, University of Melbourne, Australia). Because claims 1-4 have been canceled, this rejection is moot as to those claims.

Claims 1-33 are rejected under 35 U.S.C. § 102(e) as being anticipated by Li (USP 6,117,846). Because claims 1-4 have been canceled, this rejection is moot as to those claims. Claims 5, 18, and 27 have been amended to recite that the nucleic acids have an R-group substitution. Support for this amendment can be found in the specification on page 6, lines 16-22. Li does not disclose the use of nucleic acids with R-group substitutions to reduce the absorption of ultraviolet radiation by the skin of a mammal. Nor does Li disclose using nucleic acids with R-group substitutions to reduce sunburning or the occurrence of skin cancer. Therefore, claims 5, 18, and 27 as amended, are believed to be patentable over Li. Because

claims 6-17 depend on independent claim 5, claims 19-26 depend on independent claim 18, and claims 28-33 depend on independent claim 27, these claims are also believed patentable over Li.

Accordingly, withdrawal of the Examiner's rejection of claims 1-33 as being anticipated by the Li reference is respectfully requested.

Claim Rejections Under 35 U.S.C. § 103

Claims 18-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ananthaswamy et al. (1999; Journal of Investigative Dermatology, vol. 112, no. 5, pp. 763-768) and Gilchrest et al. (USP 6,147,056). Gilchrest et al. teaches the use of DNA fragments to enhance DNA repair (column 4, lines 45-50) and thereby protect the cellular DNA from damage from subsequent exposure to ultraviolet radiation (column 3, lines 20-23). Moreover, Gilchrest et al. teach that the DNA fragments can be applied in a delivery vehicle (column 5, lines 34-42), and the delivery vehicle can contain a sunscreen (column 5, lines 55-56). Thus, Gilchrest et al. do not teach the use of nucleic acids as a sunscreen. In addition, neither Gilchrest et al. nor Ananthaswamy et al. teach the use of R-group substituted nucleic acids. Therefore, claim 18, as amended, is believed to be patentable over Ananthaswamy et al. and Gilchrest et al. Because 19-25 depend on independent claim 18, these claims are also believed patentable over Ananthaswamy et al. and Gilchrest et al.

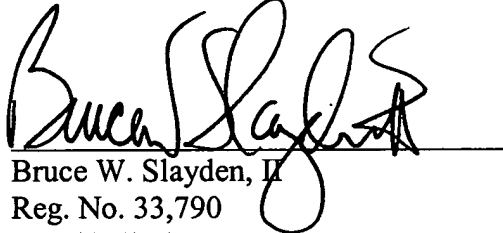
Accordingly, withdrawal of the Examiner's rejection of claims 18-25 as being obvious in view of Ananthaswamy et al. and Gilchrest et al. is respectfully requested.

SUMMARY

In light of the above amendments and remarks, reconsideration and withdrawal of the outstanding rejection is respectfully requested. It is further submitted that the application is now in condition for allowance and early notice of the same is earnestly solicited. Should the Examiner have any questions, comments or suggestions in furtherance of the prosecution of this application, the Examiner is invited to contact the attorney of record by telephone or facsimile. A check in the amount of \$300.00 is submitted herewith for the additional claims. If there are any fees due with the filing of this Response, including any fees for an extension of time, Applicant respectfully petitions the Commissioner for such an extension and direct that any and all fees be charged to Baker Botts, L.L.P., Deposit Account No. 02-0383 Order Number 068986.0102.

Respectfully submitted,

BAKER BOTTS L.L.P.

A handwritten signature in black ink, appearing to read "Bruce W. Slayden, II", is written over a horizontal line.

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MARKED UP VERSION OF AMENDED CLAIMS

5. (AMENDED) A method to reduce the absorption of ultraviolet radiation by the skin of a mammal, the method comprising:
- providing a [sunscreen] formulation comprising a nucleic acid[s], the nucleic acid having one or more R-group substitutions; and
- applying [the sunscreen] said formulation to the skin of [an untreated mammal to obtain] a [treated] mammal to reduce the absorption of ultraviolet radiation by the skin of said mammal.
9. (AMENDED) The method of claim 5, wherein [the amount of ultraviolet radiation absorbed by the skin of the treated mammal is less than the amount of ultraviolet radiation absorbed by the skin of the untreated mammal] applying said formulation to said mammal results in a reduction in the amount of ultraviolet radiation absorbed by the skin of said mammal.
10. (AMENDED) The method of claim 5, wherein [the ultraviolet radiation absorbed by the skin of the treated mammal is less than about 10% of the ultraviolet radiation absorbed by the skin of the untreated mammal] applying said formulation to said mammal results in at least about a 90% reduction in the amount of ultraviolet radiation absorbed by the skin of said mammal.
11. (AMENDED) The method of claim 5, wherein [the ultraviolet radiation absorbed by the skin of the treated mammal is less than about 5% of the ultraviolet radiation absorbed by the skin of the untreated mammal] applying said formulation results in at least about a 95% reduction in the amount of ultraviolet radiation absorbed by the skin of said mammal.

12. **(AMENDED)** The method of claim 5, wherein [the ultraviolet radiation absorbed by the skin of the treated mammal is less than about 1% of the ultraviolet radiation absorbed by the skin of the untreated mammal] applying said formulation results in at least about a 99% reduction in the amount of ultraviolet radiation absorbed by the skin of said mammal.
13. **(AMENDED)** The method of claim 5, wherein the ultraviolet radiation absorbed by the skin of the [treated] mammal is less than [the] a minimum erythema dose for the mammal after a one hour exposure to the ultraviolet radiation.
14. **(AMENDED)** The method of claim 5, wherein the ultraviolet radiation absorbed by the skin of the [treated] mammal is less than [the] a minimum erythema dose for the mammal after a four hour exposure to the ultraviolet radiation.
15. **(AMENDED)** The method of claim 5, wherein the ultraviolet radiation absorbed by the skin of the [treated] mammal is less than [the] a minimum erythema dose for the mammal after an eight hour exposure to the ultraviolet radiation.

18. (AMENDED) A method to reduce the occurrence of skin cancer on a mammal, the method comprising:
providing a [sunscreen] formulation comprising [a] nucleic acids, the nucleic acid having one or more R-group substitutions; and
applying [the sunscreen] said formulation to the skin of [an untreated mammal to obtain] a [treated] mammal to reduce the occurrence of skin cancer said mammal.
21. (AMENDED) The method of claim 18, wherein [the occurrence of skin cancer on the treated mammal is less than the occurrence of skin cancer on the untreated mammal] applying said formulation to said mammal reduces the occurrence of skin cancer on said mammal.
22. (AMENDED) The method of claim 18, wherein [the occurrence of skin cancer on the treated mammal is less than about 50% of the occurrence of skin cancer on the untreated mammal] applying said formulation to said mammal results in at least about a 50% reduction in the occurrence of skin cancer in said mammal.
23. (AMENDED) The method of claim 18, wherein [the occurrence of skin cancer on the treated mammal is less than about 25% of the occurrence of skin cancer on the untreated mammal] applying said formulation to said mammal results in at least about a 75% reduction in the occurrence of skin cancer in said mammal.
24. (AMENDED) The method of claim 18, wherein [the occurrence of skin cancer on the treated mammal is less than about 10% of the occurrence of skin cancer on the untreated mammal] applying said formulation to said mammal results in at least about a 90% reduction in the occurrence of skin cancer in said mammal.

27. (AMENDED) A method to reduce the sunburning of a mammal, the method comprising:
providing a [sunscreen] formulation comprising a nucleic acid[s], the nucleic acid
having one or more R-group substitutions; and
applying the sunburning reduction [sunscreen] formulation to the skin of [an
untreated mammal to obtain] a [treated] mammal to reduce sunburning of
said mammal.
30. (AMENDED) The method of claim 27, wherein [the sunburning of the treated mammal
is less than the sunburning of the untreated mammal] applying said formulation to said
mammal results in a reduction in the sunburning of said mammal.
31. (AMENDED) The method of claim 27, wherein [the sunburning of the treated mammal
is less than about 50% of the sunburning of the untreated mammal] applying said
formulation to said mammal results in at least about a 50% reduction in the sunburning of
said mammal.